

Supplementary Information – Hu, Yu, Swager and Griffin

Eventually, the DNP experiments described in the main text of the paper will be used to enhance the signal-to-noise in dilute solutions (mM concentrations) of solutes dissolved in glassy media. In order to confirm that the approach is applicable to this concentration regime, we show below a spectrum obtained from a 5 mM solution of ^{13}C -urea. Because of the low concentration of the ^{13}C -urea it was not possible to measure the enhancement in this case. However it should be identical to that observed in (a) and (b). Details for each spectrum are included in the figure caption.

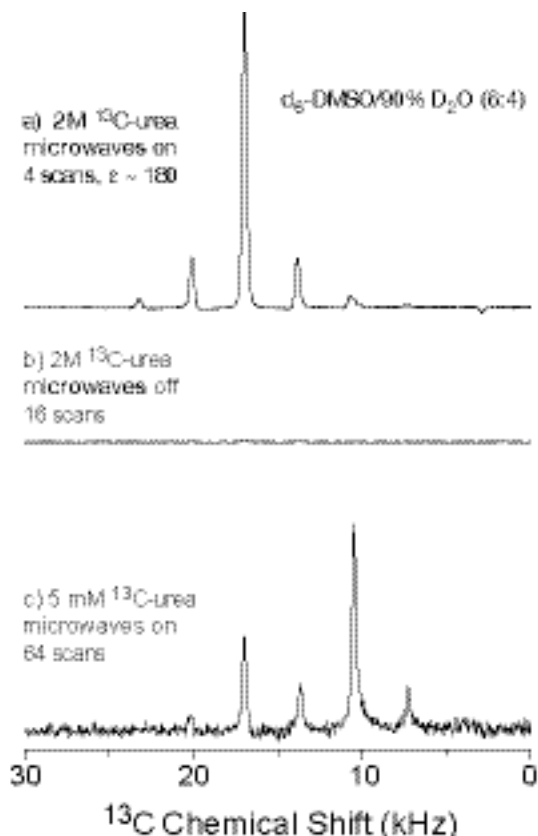


Figure S1: ^{13}C MAS spectra obtained from ^{13}C -urea solutions in d_6 -DMSO/90% D_2O . (a) 2 M ^{13}C urea following microwave irradiation. (b) 2M ^{13}C -urea obtained in the absence of microwaves. From the signal intensities in (a) and (b) we calculate $\epsilon \sim 180$. (c) ^{13}C -MAS spectrum obtained from a 5 mM solution of ^{13}C -urea in the same solvent mixture. The line due to the ^{13}C -urea is at ~ 17 kHz while the line at ~ 11 kHz is due to natural abundance ^{13}C in d_6 -DMSO. The centerband is flanked by rotational sidebands arising from ^2H - ^{13}C dipolar coupling. When the sample is prepared with ^1H -DMSO these lines are not present.